

CLAIMS

WHAT IS CLAIMED IS:

1. A tabletop device for use in supporting and positioning a patient in a medical therapy or diagnostic system having a support base and operable to project a beam over at least a portion of the tabletop, the tabletop being mounted on the support base, the tabletop comprising:

a central section configured for attachment to the support base, the central section positioned such that it is outside of a beam projection area when the tabletop is mounted in the medical therapy or diagnostic system;

a frame fixedly attached to the central section and extending longitudinally outward from opposite sides thereof; and

a support system connected to the frame for supporting a patient thereon;

wherein at least a portion of the frame and support system is located within the beam projection area when the tabletop is mounted in the medical therapy or diagnostic system and wherein the portion of the frame located within the beam projection area is formed substantially from non-metal components.

2. The device of claim 1 wherein the portion of the frame and support system located within the beam projection area is formed from composite material.

3. The device of claim 1 wherein the frame and support system is formed from a carbon fiber material.

4. The device of claim 1 wherein at least a portion of the support system is configured to provide high transmission of the beam.

5. The device of claim 1 wherein the frame is formed from carbon fiber.

6. The device of claim 5 wherein the frame comprises tubular members.

7. The device of claim 6 wherein the tubular members are connected with angles mounted within two adjacent tubular members.

8. The device of claim 7 wherein the angles are glued to an inner surface of the tubular members.

9. The device of claim 7 wherein the angles are formed from carbon fiber.

10. The device of claim 1 wherein the support system comprises a generally planar mesh member.

11. The device of claim 10 wherein the mesh member is a carbon mesh laminate.

12. The device of claim 10 wherein the mesh member comprises a carbon skin attached to an upper surface thereof.

13. The device of claim 10 wherein the mesh member is surrounded by a carbon fiber rod.

14. The device of claim 10 wherein the mesh member comprises a plurality of 10 x 10 mm openings.

15. The device of claim 10 wherein the support system comprises a multi-layer composite member which varies longitudinally in thickness to reduce beam interference in select areas.

16. The device of claim 1 wherein the support system comprises a plurality of panels having openings for receiving immobilization attachments for positioning a patient on the tabletop.

17. The device of claim 1 further comprising an accessory rail pivotably mounted about a central axis extending generally perpendicular to the frame such that the rail can be positioned to extend along one of the edges of the frame extending from the central section of the frame.

18. A system for use in medical therapy or imaging, the system comprising a base, a tabletop mounted on the base for supporting a patient, a beam projection device operable to project a beam over at least a portion of the table, the tabletop comprising:

a central section configured for attachment to the support base, the central section positioned such that it is removed from a beam projection area when the tabletop is mounted in the medical therapy or imaging system;

a frame fixedly attached to the central section and extending longitudinally outward from opposite ends thereof; and

a support system connected to the frame for supporting a patient thereon;

wherein at least a portion of the frame and support system is located within the beam projection area when the tabletop is mounted in the medical therapy or imaging system and wherein the portion of the frame located within the beam projection area is formed from non-metal components.

19. The system of claim 18 wherein the frame and support system is formed from composite material.

20. The system of claim 18 wherein the frame comprises tubular members formed from a composite material.

21. The system of claim 20 wherein the tubular members are connected with angles mounted within two adjacent tubular members.

22. The system of claim 18 wherein the support system comprises a generally planar mesh member.

23. The system of claim 22 wherein the mesh member is a carbon mesh laminate.

24. The system of claim 22 wherein the mesh member comprises a carbon skin attached to an upper surface thereof.

25. The system of claim 18 wherein the support system comprises a plurality of panels having openings for receiving immobilization inserts for positioning a patient on the tabletop.

26. The device of claim 18 further comprising an accessory rail pivotably mounted about a central axis extending generally perpendicular to the frame such that the rail can be positioned to extend along one edge of the frame extending from the central section of the frame.

27. The system of claim 17 wherein the support system comprises a plurality of integrated immobilization devices.

28. A tabletop device for use in supporting and positioning a patient in a medical therapy or diagnostic system having a support base, the tabletop being mounted on the support base, the tabletop comprising:

a central section configured for attachment to the support base,

a frame fixedly attached to the central section and extending longitudinally outward from opposite sides thereof; and

a support system integrally mounted within the frame, the support system comprising immobilization panels configured for immobilizing portions of a patient's body on the tabletop.

29. The device of claim 28 wherein the immobilization panel includes a pelvic immobilization panel.

30. The device of claim 28 wherein the immobilization panel includes a head and neck base plate.

31. The device of claim 28 wherein the immobilization panel includes a breast board.

32. The device of claim 28 wherein the immobilization panel is pivotably attached at one end to the frame such that the other end of the panel is free to rotate upwardly from the frame.

33. The device of claim 28 wherein the immobilization panel is attached to the frame with a quick release device.

34. The device of claim 33 wherein the quick release device is a spring loaded pin.

35. The device of claim 28 wherein the frame includes a plurality of members extending at least partially around a periphery thereof, the members having a lip on an internal edge thereof for receiving the immobilization panel.

36. The device of claim 28 wherein the immobilization panel is configured such that an upper surface thereof is generally planar with an upper surface of the frame when the immobilization panel is in place within the frame.

37. The device of claim 28 wherein the frame and support system are formed from non-metal components.